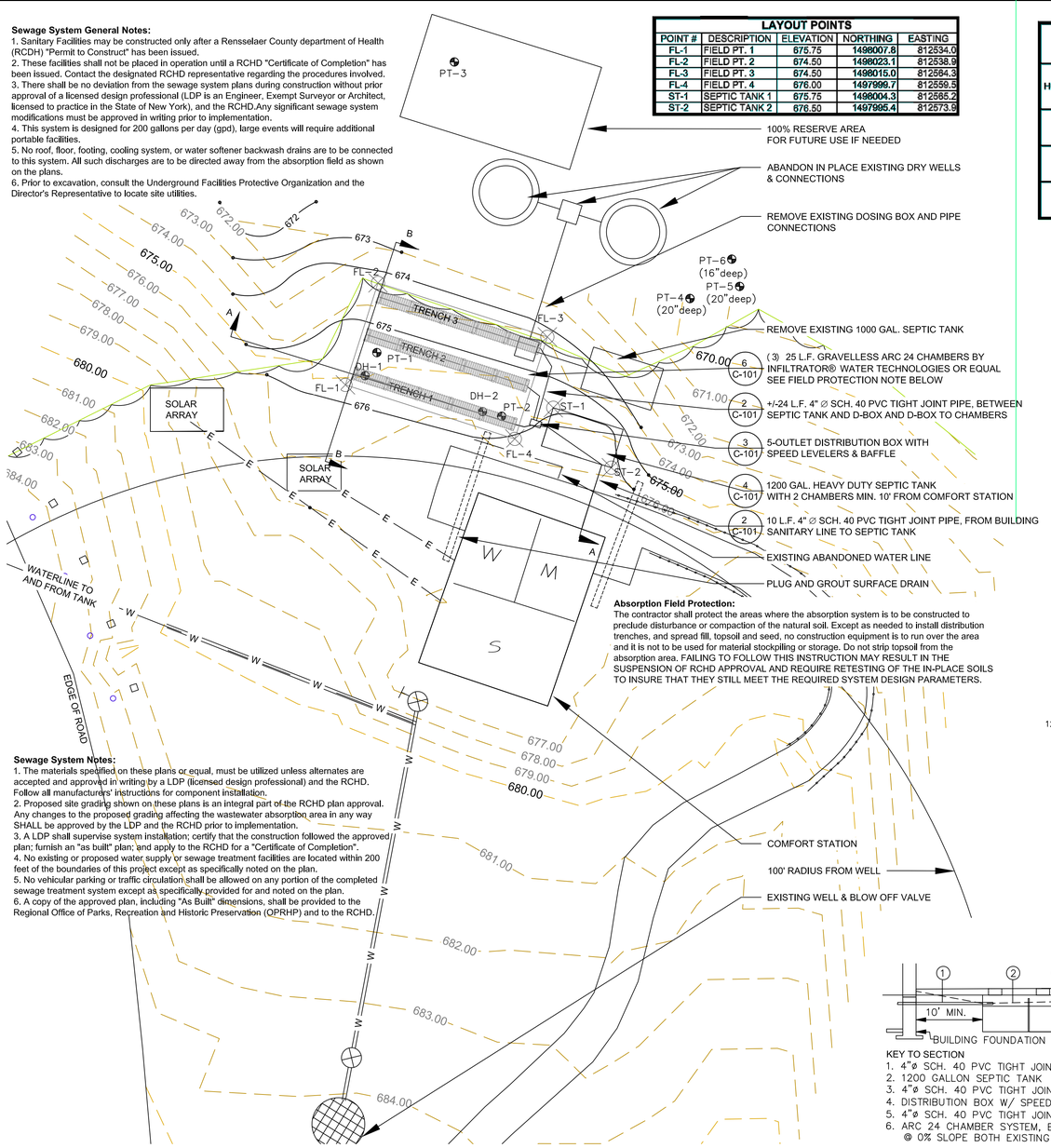
Sewage System General Notes:
1. Sanitary Facilities may be constructed only after a Rensselaer County department of Health (RCDH) "Permit to Construct" has been issued.
2. These facilities shall not be placed in operation until a RCHD "Certificate of Completion" has been issued. Contact the designated RCHD representative regarding the procedures involved.
3. There shall be no deviation from the sewage system plans during construction without prior approval of a licensed design professional (LDP is an Engineer, Exempt Surveyor or Architect, licensed to practice in the State of New York), and the RCHD.Any significant sewage system modifications must be approved in writing prior to implementation.
4. This system is designed for 200 gallons per day (gpd), large events will require additional portable facilities.
5. No roof, floor, footing, cooling system, or water softener backwash drains are to be connected to this system. All such discharges are to be directed away from the absorption field as shown on the plans.
6. Prior to excavation, consult the Underground Facilities Protective Organization and the Director's Representative to locate site utilities.

LAYOUT POINTS				
POINT #	DESCRIPTION	ELEVATION	NORTHING	EASTING
FL-1	FIELD PT. 1	675.75	1498007.8	812534.0
FL-2	FIELD PT. 2	674.50	1498023.1	812538.9
FL-3	FIELD PT. 3	674.50	1498015.0	812584.3
FL-4	FIELD PT. 4	676.00	1497999.7	812559.5
ST-1	SEPTIC TANK 1	675.75	1498004.3	812585.2
ST-2	SEPTIC TANK 2	676.50	1497995.4	812573.9



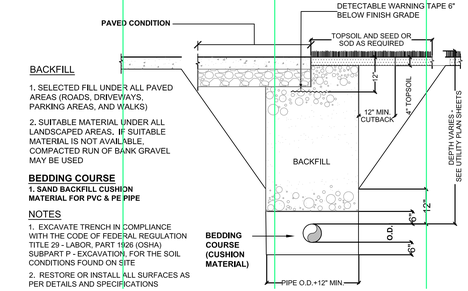
Absorption Field Protection:
The contractor shall protect the areas where the absorption system is to be constructed to preclude disturbance or compaction of the natural soil. Except as needed to install distribution trenches, and spread fill, topsoil and seed, no construction equipment is to run over the area and it is not to be used for material stockpiling or storage. Do not strip topsoil from the absorption area. FAILING TO FOLLOW THIS INSTRUCTION MAY RESULT IN THE SUSPENSION OF RCHD APPROVAL AND REQUIRE RETESTING OF THE IN-PLACE SOILS TO INSURE THAT THEY STILL MEET THE REQUIRED SYSTEM DESIGN PARAMETERS.

Sewage System Notes:
1. The materials specified on these plans or equal, must be utilized unless alternates are accepted and approved in writing by a LDP (licensed design professional) and the RCHD. Follow all manufacturers' instructions for component installation.
2. Proposed site grading shown on these plans is an integral part of the RCHD plan approval. Any changes to the proposed grading affecting the wastewater absorption area in any way SHALL be approved by the LDP and the RCHD prior to implementation.
3. A LDP shall supervise system installation; certify that the construction followed the approved plan; furnish an "as built" plan; and apply to the RCHD for a "Certificate of Completion".
4. No existing or proposed water supply or sewage treatment facilities are located within 200 feet of the boundaries of this project except as specifically noted on the plan.
5. No vehicular parking or traffic circulation shall be allowed on any portion of the completed sewage treatment system except as specifically provided for and noted on the plan.
6. A copy of the approved plan, including "As Built" dimensions, shall be provided to the Regional Office of Parks, Recreation and Historic Preservation (OPRHP) and to the RCHD.

1 BENNINGTON BATTLEFIELD COMFORT STATION SITE
PLAN **SCALE: 1"=10'**

PERCOLATION TEST RESULTS
BENNINGTON BATTLEFIELD COMFORT STATION

HOLE NO.	HOLE DEPTH	Soil Profile & Groundwater Depth (if identified)	Presoak	Date Performed: Tuesday November 10, 2015 Witnessed by: E. Mastrianni, P.E.; C. Cortes, OPRHP K. Forcinella -RCDOH						
					1	2	3	4	5	6
PT-1	30"	0" -3" Topsoil, dark brown		End	1:17	1:21	2:30	2:36	2:42	2:57
		3" - 30" gravelly silt loam w/roots	11/10/15	Begin	1:15	1:18	2:27	2:31	2:37	2:52
		No Water or mottling	AM	P.R.	0:02	0:03	0:03	0:05	0:05	0:05
PT-2	24"	0" -3" Topsoil, dark brown		End	1:11	1:15	2:47	2:53	3:18	
		3" - 30" gravelly silt loam w/roots	11/10/15	Begin	1:08	1:12	2:42	2:48	3:12	
		No Water or mottling	AM	P.R.	0:03	0:03	0:05	0:05	0:06	
PT-3	30"	0" -2" Topsoil, dark brown		End	11:46	11:51	11:58	12:04		
		2" - 30" gravelly silt loam w/roots	11/10/15	Begin	11:43	11:46	11:52	11:58		
		No Water or mottling	AM	P.R.	0:03	0:05	0:06	0:06		



BACKFILL

1. SELECTED FILL UNDER ALL PAVED AREAS (ROADS, DRIVEWAYS, PARKING AREAS, AND WALKS)

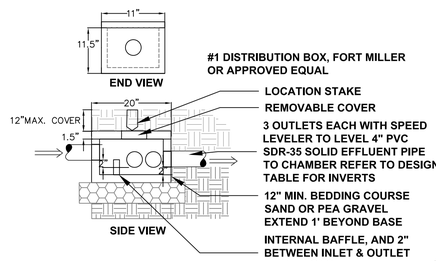
2. SUITABLE MATERIAL UNDER ALL LANDSCAPED AREAS. IF SUITABLE MATERIAL IS NOT AVAILABLE, COMPACTED RUN OF BANK GRAVEL MAY BE USED

BEDDING COURSE
1. SAND BACKFILL CUSHION MATERIAL FOR PVC & PE PIPE

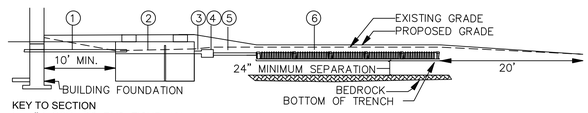
NOTES

1. EXCAVATE TRENCH IN COMPLIANCE WITH THE CODE OF FEDERAL REGULATION TITLE 29 - LABOR, PART 1926 (OSHA) SUBPART P - EXCAVATION, FOR THE SOIL CONDITIONS FOUND ON SITE
2. RESTORE OR INSTALL ALL SURFACES AS PER DETAILS AND SPECIFICATIONS

2 TRENCHING FOR PVC & PE PIPING
SECTION **SCALE: N.T.S.**



3 DISTRIBUTION BOX
SECTION **SCALE: N.T.S.**



KEY TO SECTION
1. 4"ø SCH. 40 PVC TIGHT JOINT PIPE @ 1/4 FOOT MIN. SLOPE
2. 1200 GALLON SEPTIC TANK
3. 4"ø SCH. 40 PVC TIGHT JOINT PIPE @ 1/8"/ FOOT MIN. SLOPE
4. DISTRIBUTION BOX W/ SPEED LEVELERS, COVER & LOCATION STAKE
5. 4"ø SCH. 40 PVC TIGHT JOINT PIPE @ 1/16"/ FOOT MIN. SLOPE
6. ARC 24 CHAMBER SYSTEM, BY INFILTRATOR OR APPROVED EQUAL @ 0% SLOPE BOTH EXISTING AND PROPOSED.

5 SECTION A-A
SECTION **SCALE: 1"= 10'**

DEEP HOLE TEST RESULTS
BENNINGTON BATTLEFIELD COMFORT STATION

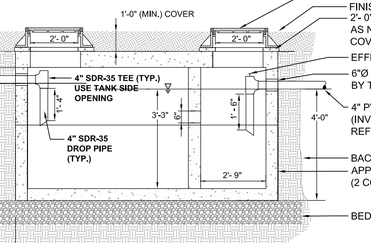
Date Performed: 11/10/15
Witnessed by: E. Mastrianni, P.E.; C. Cortes, OPRHP
K. Forcinella -RCDOH

HOLE NO.	TOTAL DEPTH	ROCK DEPTH	WATER DEPTH	SOIL DEPTH AND TYPE
DH-1	48"	48"	Not Encountered, No Mottleing	0" -3" Topsoil, dark brown 3" - 30" dark brown gravelly silt loam w/roots 30"-33" pale brown sand 33"-48" dark brown gravelly silt, w/ roots & rocks
DH-2	48"	48"	Not Encountered, No Mottleing	0" -3" Topsoil, dark brown 3" - 48" dark brown gravelly silt loam with roots & rocks

Bennington Battlefield Comfort Station
ONSITE WASTEWATER TREATMENT SYSTEM REPLACEMENT
DESIGN CALCULATIONS

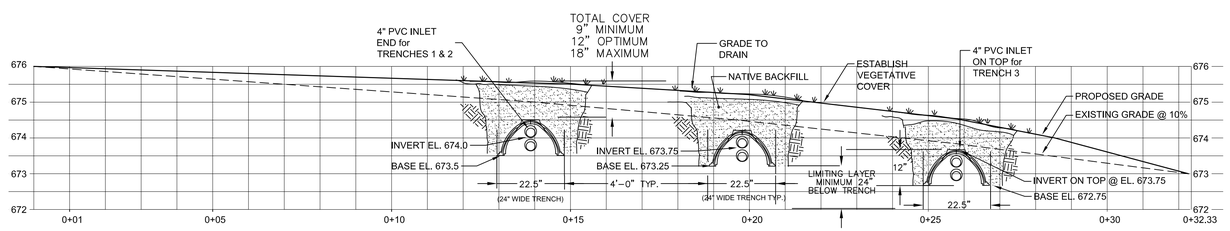
ESTIMATED DESIGN FLOW: Comfort Station open mid May-mid October			
Maximum Anticipated Water Use:		200	gpd
Design Flow:		200	gpd
NYSERDA Study conducted for installation of solar arrays measured Peak Daily Demand at 180 gpd			
Note: Water supply is limited and during infrequent large events portable wastewater facilities are supplied			
SEPTIC TANK SIZING under 5,000 g Tank size = 1.5 Q			
Comfort Station 300 g SAY:		1200	gallon tank
CALCULATE DIMENSION OF ABSORPTION AREA			
Application rate for soils: Controling soil 8 min./inch = 1	gpd/SF		
ABSORPTION AREA REQUIRED-25% REDUCTION WITH CHAMBERS =		150	SF
Absorption Area Provided = Minimum 3 trenches @ 25' each		150	SF v ok
TOTAL ABSORPTION TRENCH LENGTH REQUIRED : Area(SF) / 2 LF wide =		75	LF
Say 1 field with 3 trenches, 25' long each =		75	LF v ok
ABSORPTION FIELD LAYOUT Therefore: 1 Field with 3 Trenches with 25 LF Chambers each.			
Field Dimensions: 1 Field 27 LF long (w/6" ea. end) x 16 LF wide(w/1' each side) =		432	SF
Bottom Gravelless Chamber : 3 Rows each: 5 chamber @5' + end caps			
DISTRIBUTION BOXES REQUIRED:		1	(5-outlet)

HYDRAULIC PROFILE	Invert (in)	Invert (out)	Cover	Grade Level
10 LF 4"ø PVC PIPE TO SEPTIC TANK	674.83	674.58	1.67	676.83
NEW 1200 GAL. SEPTIC TANK	674.58	674.33	1.00	676.25
1.0 LF 4"ø GRAVITY SEWER PIPE TO D-BOX	674.33	674.25	1.34	678.00
DISTRIBUTION BOX	674.25	674.08	1.00	676.00
LF (varies) 4"Ø SOLID SCH. 40 PVC PIPE @1/16" / LF To Trench	674.08	VARIES	1.00	675.50
INFILTRATION TRENCH 1, LEVEL, 25 LF, use END Knockout	674.00	NA	1.00	675.50
INFILTRATION TRENCH 2, LEVEL, 25 LF, use END Knockout	673.75	NA	1.00	675.25
INFILTRATION TRENCH 3, LEVEL, 25 LF, use TOP Knockout	673.75	NA	0.75	674.50



SEPTIC TANK NOTES
1. SEPTIC TANK SHALL HAVE A 1,200 GALLON CAPACITY
2. PRODUCTS SHALL BE BY FORT MILLER OR APPROVED EQUAL
2.1 HEAVY DUTY SEPTIC TANK.
2.2 ZABEL A100 EFFLUENT FILTER
2.3 MH 2' - 0" ID SOLID COVER & FRAME (MODEL V1349 MANHOLE ASSEMBLY BY EJ GROUP, INC. OR EQUAL) (TYP.)

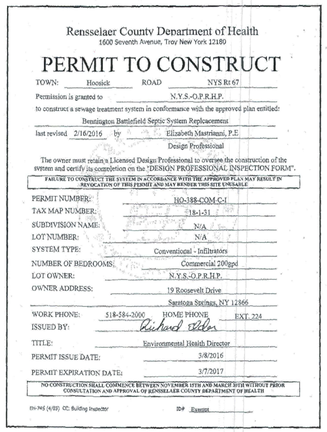
4 1200 GALLON HEAVY DUTY, DUAL CHAMBER SEPTIC TANK
PLAN/SECTION **SCALE: N.T.S.**



6 SECTION B-B GRAVEL LESS CHAMBER TRENCH INSTALLATION
PLAN **SCALE: 1"= 2'**

GRAVELLESS CHAMBER TRENCH NOTES:
1. INSTALL (3) 25 L.F. LINES.
2. TRENCH SPACING SHALL BE 6' ON CENTER.
3. EXCAVATE TRENCHES TO PROPER WIDTH AND PROPER DEPTH AS REQUIRED BY NYS AND LOCAL CODES.
4. SMOOTH IRREGULARITIES IN THE EXCAVATION. A LEVEL FLAT SURFACE IS REQUIRED.
5. ASSEMBLE ARC LEACHING CHAMBERS AND UNIVERSAL ENDPLATES TOGETHER IN TRENCHES.
6. INSTALL UNIVERSAL END CAP AND SECURE IN PLACE WITH BACKFILL.
7. PUNCH OUT PIPE HOLE OPENINGS IN THE END PLATES AS NEEDED AND CONNECT INLET PIPES.
8. FILL SIDEWALL AREA TO TOP OF CHAMBERS WITH NATIVE SOIL (COARSE SAND OR FINE GRAVEL, MAY BE USED: NO HEAVY CLAY, SILT OR DEBRIS SHALL BE INCLUDED.)
9. "WALK IN" FILL TO COMPACT SOIL ALONG SIDES OF ARC CHAMBER. THIS IS VERY IMPORTANT TO ACHIEVE LOAD RATING.
10. COVER ARC LEACHING CHAMBERS TO A MINIMUM OF 12" OF GRANULAR COVER AFTER CONSOLIDATION FOR H-10 APPLICATIONS. AVOID LARGE ROCKS OR DEBRIS IN COVER MATERIAL. COVER HEIGHTS AND LIVE LOADING LIMITS ARE IMPACTED BY BOTH SOIL TYPE AND COMPACTION REQUIREMENTS.

RENSSELAER COUNTY DEPARTMENT OF HEALTH



Rensselaer County Department of Health
1600 Seventh Avenue, Troy New York 12180

PERMIT TO CONSTRUCT

TOWN: Hoosick ROAD NYS Rt 67
Permission is granted to N.Y.S.-O.P.R.H.P.
to construct a sewage treatment system in conformance with the approved plan entitled:
Bennington Battlefield Septic System Replacement
last revised 2/16/2016 by Elizabeth Mastrianni, P.E.
Design Professional

The owner must retain a Licensed Design Professional to oversee the construction of the system and certify its completion on the "DESIGN PROFESSIONAL INSPECTION FORM".

FAILURE TO CONSTRUCT THE SYSTEM IN ACCORDANCE WITH THE APPROVED PLAN MAY RESULT IN REVOCATION OF THIS PERMIT AND MAY RENDER THIS SITE UNUSABLE

PERMIT NUMBER: 160-388-COM-C-1
TAX MAP NUMBER: 18-1-31
SUBDIVISION NAME: N/A
LOT NUMBER: N/A
SYSTEM TYPE: Conventional - Infiltrators
NUMBER OF BEDROOMS: Commercial 200gpd
LOT OWNER: N.Y.S.-O.P.R.H.P.
OWNER ADDRESS: 19 Roosevelt Drive
Saratoga Springs, NY 12866
WORK PHONE: 518-584-2000 HOME PHONE: EXT. 224
ISSUED BY: Richard Feller
TITLE: Environmental Health Director
PERMIT ISSUE DATE: 3/8/2016
PERMIT EXPIRATION DATE: 3/7/2017

NO CONSTRUCTION SHALL COMMENCE BETWEEN NOVEMBER 15TH AND MARCH 31ST WITHOUT PRIOR CONSULTATION AND APPROVAL OF RENSSELAER COUNTY DEPARTMENT OF HEALTH

DH-745 (4/09) CC: Building Inspector ID# Exempt

NEW YORK STATE OF OPPORTUNITY. Parks, Recreation and Historic Preservation

Saratoga-Capital Region
Saratoga State Park
19 Roosevelt Drive
Saratoga Springs, New York 12866
(518) 584-2000

Project Location:
Bennington Battle Field
State Historic Site
NYS Route 67
Walloomsac, NY 12090

Tax Map Number: 18-1-31

Project Title:
Septic System Rehab

Sheet Title:
Septic System Plans, Details and Tables

Required Inspections:
Site inspections of sanitary facilities shall be conducted jointly by a LDP and the designated RCHD representative as follows:
1. During design, prior to plan approval-deep test pits and native soil percolation testing.
2. Prior to backfilling wastewater distribution system, i.e. tank, distribution box, absorption field trenches.
3. After final grading and seeding.

No alterations permitted hereon except as provided under Section 7209, Subdivision 2 of the New York State Education Law.

Revision:

Drawn By: EAM	Date: February 16, 2016
Design By: EAM	Scale: As shown
Checked By: KAK	Sheet:

Project Number: SA-BB-2016-01

Drawing Number: C-101